AN AGGREGATION OF *CHALYBION CALIFORNICUM* (HYMENOPTERA: SPHECIDAE) IN A BELL[1]

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ABSTRACT: Wasps of the species *Chalybion californicum* aggregated in a bell. Initial contact with the bell was probably fortuitous, but later contact may have been mediated by a pheromone.

During the summers of 1980 and 1981 (from about June through August) a population of *Chalybion californicum* (Sphecidae) aggregated in a bell (15 cm. diameter, 25 cm. high) on the porch of a house in the upper Rio Grande valley in El Paso, Texas The bell hung on the west-facing exposure of the building 6 feet off the ground. Aggregations of 50-100 individuals were noted. We also observed the wasps aggregating in knot holes in the rafters and support posts under the porch.

Aggregations of *C. californicum* are common (Bohart and Menke 1963). Large groups have been found on the undersurface of overhanging rocks (Rau 1928) and on rafters (Rau 1938). This is the first report of an aggregation on a metal structure.

The gregarious behavior of the wasps within and around the bell closely approximates that described by Ward (1972) for the species in Indiana. *C. californicum* she studied roosted among shingles, under an overhanging rock and on rafters. She found that most of the wasps roosted before sunset — beginning about 2 hours before sunset. After dark the wasps were not disturbed if a light was focused on them. Similarly, the wasps we observed roosted before dusk and were undisturbed by beams of light. Ward (1972) proposed that the initial choice of a roost by *C. californicum* may be "based on temperature" (higher temperatures selected), and that return to the roost on successive nights may be mediated by a pheromone.

The presence of wasps in the rafters and support posts of the porch from which the bell hung, as well as in the bell, indicates that initial contact with the bell may have been fortuitious. However, once the bell was located, perhaps its warmer temperature (or a pheromore) caused the wasps to return on successive nights.

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Figure 1. An aggregation of *Chalybion californicum* in a bell.

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